## Figure 1

V. (\*)

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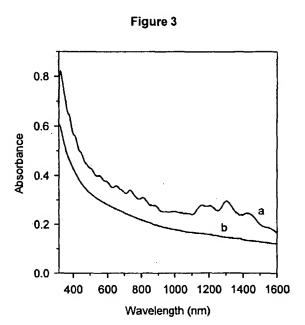
.4.7

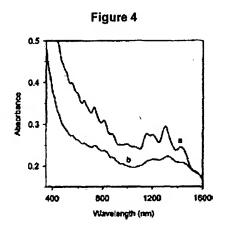
Figure 2

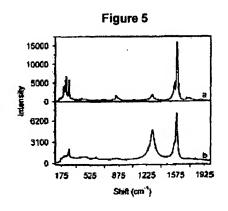
11.1

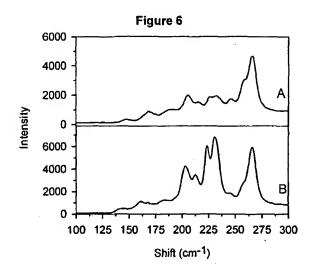
. . . . .

a) TosCl,  $H_2O$ , THF b) 4-nitrophenol, DMF,  $K_2CO_3$  c)  $H_2$ , Pd/C d) NOBF<sub>4</sub>, CH<sub>3</sub>CN









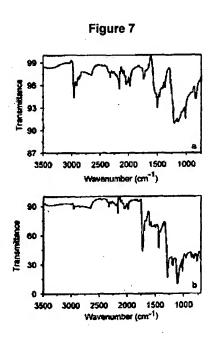
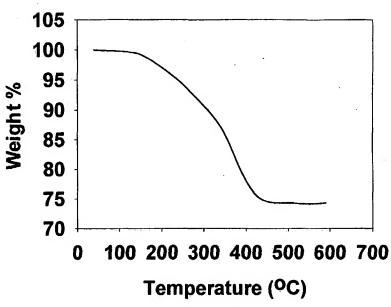


Figure 8

...



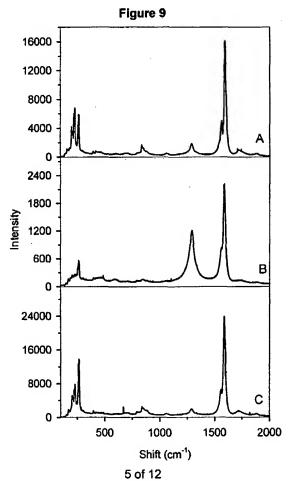
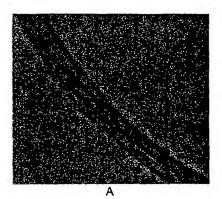


Figure 10



\_\_\_\_\_10nm

Figure 11

 $\mathbb{T}_{i}^{n} \subseteq$ 

Figure 13

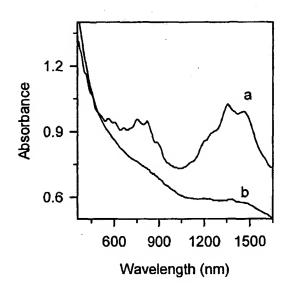


Figure 14

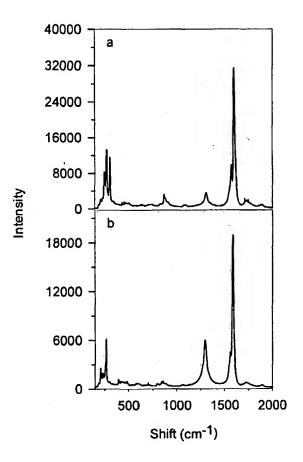


Figure 15

Figure 16

$$R = H_{2}C - C - CH_{2}$$

$$A$$

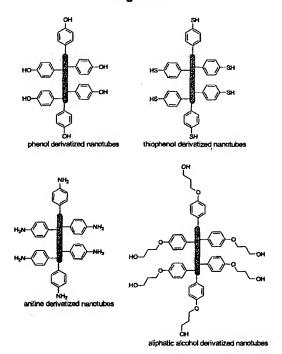
$$R = H_{2}C - C - CH_{2}$$

$$O - CH_{2} - CH_{2}$$

$$O - CH_{$$

cured epoxy (thermoset) resin

Figure 17



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Figure 19

Figure 20

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trifluoroacetic acid
1,2-dichlorbenzene or dimethylformamide
or
heating at or near 175 °C

- ;

Cured thermoset resin in which the derivatized nanotubes act as a crosslinking agent by chemical reaction with the polymer matrix

Figure 23